

REMARKS

By this amendment, claims 1-4, 7-11, 14-18, 21-25, 28-32, 35-39, and 42 are pending, in which claims 5, 6, 12, 13, 19, 20, 26, 27, 33, 34, 40, and 41 have been previously canceled without prejudice or disclaimer, no claims are withdrawn from consideration, claims 1, 8, 15, 22, and 29 are currently amended, and no claims are newly presented. No new matter is introduced.

The Office Action mailed December 5, 2007 rejected claims 1-4, 7-11, 14-18, 21-25, and 28-32 under 35 U.S.C. § 112, second paragraph, as being indefinite, claims 1, 3, 4, 8, 11, 15, 17, 18, 22, 25, 29, 32, 36, 38, and 39 under 35 U.S.C. § 103 based on *Prismantas et al.* (US 2002/0155811) in view of *Dent et al.* (US 6,243,587), claims 10, 24, and 31 under 35 U.S.C. § 103 based on *Prismantas et al.* (US 2002/0155811) and *Dent et al.* (US 6,243,587) in view of *Enns et al.* (US 2003/0161263), and claims 2, 7, 9, 14, 16, 21, 23, 28, 30, 35, 37, and 42 under 35 U.S.C. § 103 based on *Prismantas et al.* (US 2002/0155811) and *Dent et al.* (US 6,243,587) in view of *Parmenter* (US 6,615,052).

In view of the amendments to claims 1, 8, 15, 22, and 29, providing clear antecedent bases for “the satellite” in the preambles, the rejection of claims 1-4, 7-11, 14-18, 21-25, and 28-32 under 35 U.S.C. § 112, second paragraph, is believed to be overcome. Therefore, the Examiner is respectfully requested to withdraw this rejection.

Applicants respectfully traverse the rejection of the claims under 35 U.S.C. § 103.

With regard to independent claims 1, 8, 15, 22, 29, and 36, the Examiner admits that *Prismantas et al.* fails to teach “receiving a request to perform re-ranging based upon re-ranging criteria that includes at least one of location of the satellite, and the characteristics of the channel” and “wherein the radio frequency communications system includes a satellite configured to support two-way communication.” The Examiner turns to *Dent et al.* to provide

for this deficiency in *Prismantas et al.*, contending that it would have been obvious to provide for these features in *Prismantas et al.* because “it provides the desirable added feature of two-way satellite communication and more efficiency for the system since the system better optimize the communication channels with ranging and re-ranging based on channel characteristics at the receiving end.” (Office Action of December 5, 2007-pages 7-8).

It is pure hindsight for the Examiner to attempt to modify *Prismantas et al.* in any way to provide for a satellite configured to support two-way communication since *Prismantas et al.* is not concerned with satellite communication. In fact, *Prismantas et al.* is directed to interference detection systems wherein an interference picture is generated. Transmission is adapted around a determined interference. Because *Prismantas et al.* makes no mention of a “satellite” and is clearly far removed from any two-way satellite communication system, the skilled artisan would not, and could not, have been led by anything in *Dent et al.* to modify the interference detection system of *Prismantas et al.* to provide for a two-way satellite communication system, within the meaning of 35 U.S.C. § 103.

Moreover, while the Examiner contends that the combination of references would provide “the desirable added feature of two-way satellite communication and more efficiency for the system since the system better optimize the communication channels with ranging and re-ranging based on channel characteristics at the receiving end,” (sic), it is only Applicants’ disclosure that provides “the desirable added feature of two-way satellite communication.” Further, the generalized rationale of “more efficiency” as a reason for obviousness, without more, falls far short of the “articulated reasoning” with some rational underpinning to support the legal conclusion of obviousness required by the U.S. Supreme Court. See *KSR International Co. v. Teleflex Inc.*, 550 U.S. ____ (2007). The Examiner argues that there would be “better” optimization of “the communication channels with ranging and re-ranging based on channel

characteristics at the receiving end.” However, the RF transmission channels of *Prismantas et al.* are of concern only insofar as the avoidance of RF interference thereon is concerned. Thus, to whatever extent *Prismantas et al.* “optimizes” a channel, it is to avoid RF interference. Nothing therein suggests employing a “ranging” or “re-ranging” based on a location of a satellite or the characteristics of a channel. Further, *Dent et al.* is no help in this regard because *Dent et al.* is concerned with determining the position of a mobile transmitter, such as a cellular telephone, through a calculated range difference relative to first and second receiving sites. There is clearly no “receiving a request to perform re-ranging based upon re-ranging criteria that includes at least one of location of the satellite, and the characteristics of the channel” in *Dent et al.*

But, even assuming, *arguendo*, that *Dent et al.* teaches such a re-ranging (which it does not), nothing would have led the artisan to modify a system for mitigating RF interference, such as in *Prismantas et al.*, with anything taught by *Dent et al.*, directed to the determination of a position of a cellular telephone. Because *Prismantas et al.* is directed to mitigating RF interference, while *Dent et al.* is directed to the determination of a position of a cellular telephone, these references are not analogous arts, either to themselves or to Applicants’ claimed subject matter of ranging in a radio frequency communication system including a satellite configured to support two-way communication. The test for analogous art outside an inventor’s field of endeavor is whether the art pertains to the particular problem confronting the inventor. *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992). Both *Prismantas et al.* and *Dent et al.* are outside Applicants’ field of endeavor of providing two-way satellite communication. Moreover, neither *Prismantas et al.* nor *Dent et al.* pertains to the particular problem of providing for such two-way satellite communication by selecting a transmission channel class, transmitting a ranging message according to the selected channel, selectively

modifying the transmission channel class based on the characteristics of the channel, and “receiving a request to perform re-ranging based upon re-ranging criteria that includes at least one of location of the satellite, and the characteristics of the channel.” Accordingly, the combination of the applied references is improper.

Still further, contrary to the Examiner’s assertion, *Dent et al.* does not teach “receiving a request to perform re-ranging based upon re-ranging criteria that includes at least one of location of the satellite, and the characteristics of the channel.” The Examiner points to col. 2, line 37 to col. 3, line 15 of *Dent et al.* for such a teaching. However, this portion of the reference is merely directed to the determination of the position of a mobile transmitter, such as a cellular telephone, relative to first and second receiving sites. The receiving sites may be satellite relay stations. The mobile transmitter transmits a first signal at a first frequency and this first signal is received at the first and second receiving sites as first and second received signals. A second signal at a second frequency is transmitted from the mobile transmitter and received at the receiving sites as third and fourth received signals. A first phase difference measurement is made based on the first and second received signals and a second phase difference measurement is made based on the third and fourth received signals. The determination of the location of the mobile transmitter is made based on the first and second phase difference measurements, the first and second frequencies and the first and second known locations of the receiving stations. A calculated range difference places the transmitter on a first hyperbola with foci at the first and second receiving stations. The position of the transmitter may be further defined by calculating additional phase differences based on an additional receiving site and the first and second receiving sites, localizing the transmitter on a second hyperbola related to the additional receiving site and the one of the first and second receiving sites, and determining the position of the mobile transmitter based on the intersection of the first

and second hyperbolas. While one might conceivably contend that these calculations involve a location of a satellite (location of a receiving site), there is clearly no teaching of “receiving a request to perform re-ranging based upon re-ranging criteria that includes at least one of location of the satellite, and the characteristics of the channel,” as claimed. Accordingly, since neither of the applied references teaches or discloses this claimed feature, no combination of these references can result in the instant claimed subject matter.

Accordingly, the Examiner is respectfully requested to withdraw the rejection of claims 1, 3, 4, 8, 11, 15, 17, 18, 22, 25, 29, 32, 36, 38, and 39 under 35 U.S.C. § 103.

Since neither *Enns et al.* nor *Parmenter* provides for the deficiencies of *Prismantas et al.* and *Dent et al.*, the Examiner is also respectfully requested to withdraw the rejections of claims 2, 7, 9, 10, 14, 16, 21, 23, 24, 28, 30, 31, 35, 37, and 42 under 35 U.S.C. § 103.

Therefore, the present application, as amended, overcomes the rejections of record and is in condition for allowance. Favorable consideration is respectfully requested. If any unresolved issues remain, it is respectfully requested that the Examiner telephone the undersigned attorney at (703) 519-9952 so that such issues may be resolved as expeditiously as possible.

To the extent necessary, a petition for an extension of time under 37 C.F.R. §1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 504213 and please credit any excess fees to such deposit account.

Respectfully Submitted,

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